He has obtained his BSc Engineering degree from University of Moratuwa in 1994; subsequently obtained Master's Degree in the field of Textile Studies and MBA in Management of Technology.

He is a charted environmental professional, an experienced Cleaner Production auditor and an Energy auditor.

He is a professional with 25 years of experience in advisory, capacity building and performance evaluation of the industries at national and international levels. He has involved in international projects mainly in Resource efficiency and Cleaner Production in Bangladesh and Pakistan.

Samantha Kumarasena,
Chief Executive Officer,
National Cleaner Production Centre, Sri Lanka

Novel Business Models for Circular Economy

Principle 1- Preserve and enhance natural capital

- Virtual products
- Sharing economy – second hand products …
- Product lifetime extension
- Products made from renewable materials

Principle 2 – Optimise resource yield

Use products, components and materials up to the end of their useful lifetime

- Durable Products – new design of products
- Repair practice – availability of parts
- Careful use of items – consumption behaviour

Principle 3 – Foster system effectiveness

- Design out negative externalities
- Reflect on actual need of the products – review execessive resource consumption
- Conscious use of resources
  - ✓Changes in product design
  - ✓Changes in manufacturing process
  - ✓Reduce /avoid wastes
- Reduce negative environmental impact

What is eco-innovation?

- *"Eco-innovation is the development and application of a business model, shaped by a new business strategy that incorporates sustainability throughout all business operations based on life cycle thinking and in cooperation with partners across the value chain.*
- *It entails a coordinated set of modifications or novel solutions to products (goods / services), processes, market approach and organizational structure which leads to a company's* ***enhanced performance and competitiveness****."*

Company Profile

- Sector :**Coconut Products**
- Year of establishment :**1963**
- Number of Employees :**85**
- Main business operation: **Manufacturing and export of desiccated coconut**

Traditional Business Model of the Company

Source raw inorganic coconut from suppliers

Process DC

Coconut water getting wasted

Sell to brokers for exportation- Reduces profit margin

New Business Model of the Company

Source raw organic coconut from suppliers

Adopting Zero Discharge concept

Process DC, Virgin oil & white coconut oil

Directly export to global consumers

Company Profile

- Sector : **Dairy**
- Year of establishment : **1998**
- Number of Employees : **92**
- Main business operation:

  Manufacturing of ice cream, yoghurt, curd, yoghurt with trickle, jelly yoghurt and yoghurt drink

Main products

Ice cream

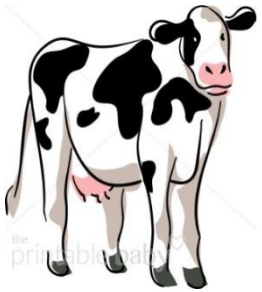
Curd

Yoghurt

Yoghurt with trickle

Drinking yoghurt

Traditional Business Model of the Company



Traditional milk farming

Rasoda with less milk yield

Final products

Distribution

End consumer

New Business Model

Rasoda with maximized profits

Happy farmers with increased milk yield

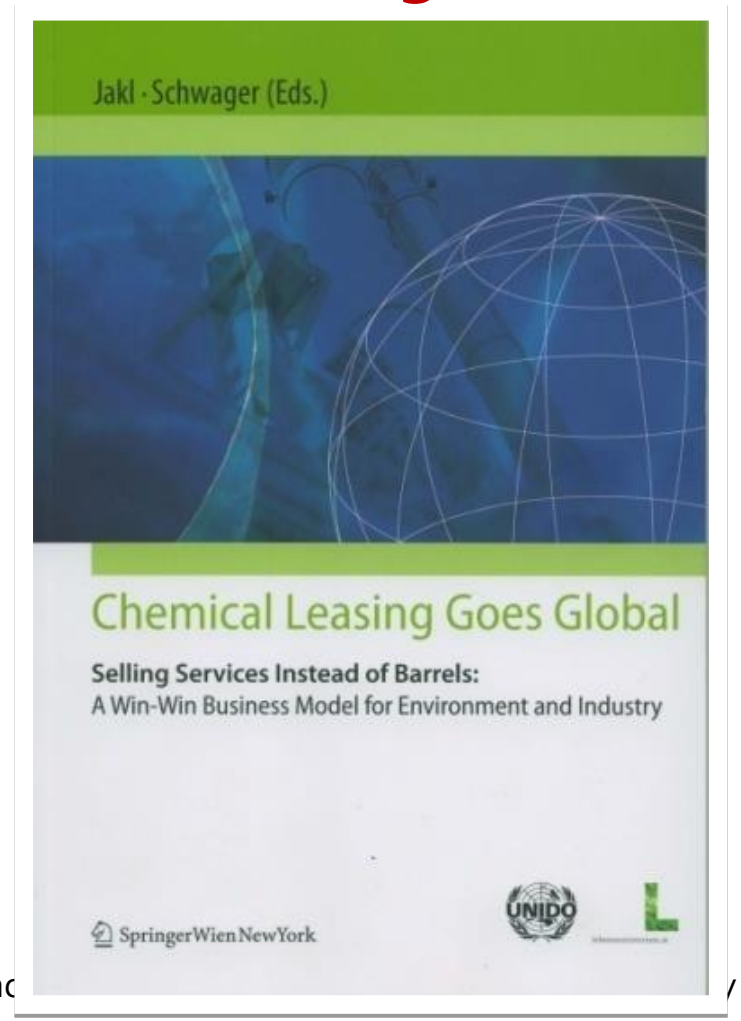
High quality dairy products

Distribution

Happy customers

Chemical leasing – An alternative business model to face the challenge!

- Chemical Leasing is an innovative service-oriented business model for the sound & efficient use of chemicals (value-added functional approach)
- Chemical Leasing is **centred around a unit of payment;** the ***payment is no longer related to the chemical itself, but to the benefits of the chemical!***



Chemical Leasing

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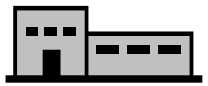
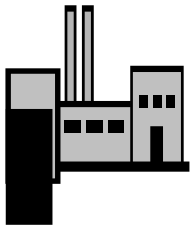
Chemical Leasing –
Centred around a unit of payment!



User of the chemical



Producer of the chemical

Does not pay to own a chemical,
but spends money for the benefits provided by a chemical

Sells the function of a chemical,
including **know how** on efficiency and risks,
adding **management services** like
production management and logistics

In alternative Chemical Leasing business model…

Amount of produced chemicals

will decline
as chemicals volume turns from a factor for earnings (“*the more you sell the more you earn*“)
to a cost driver (“*less is more*“)

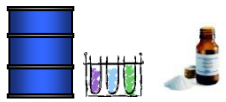
Added value

can be shared
among the involved partners

Payments on the benefits of chemicals!

Chemical producer provides chemicals to (no sales in volumes) the user

payment not for the chemical itself, but for the benefits of the chemical
(e.g. not for tons of cleaning agent used, but for number of products or area cleaned!)

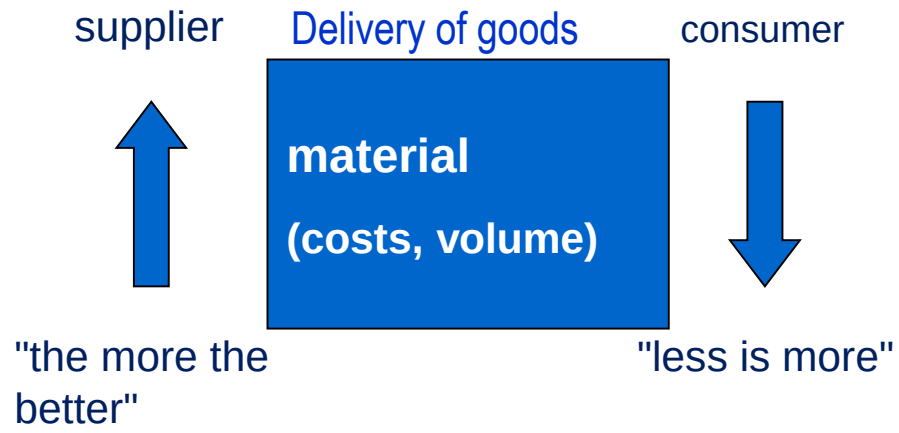


amount of produced chemicals will decline as chemicals volume turns from a factor for earnings ("*the more you sell the more you earn*") to a cost driver ("*less is more*")

Chemical leasing business models bundle motivations

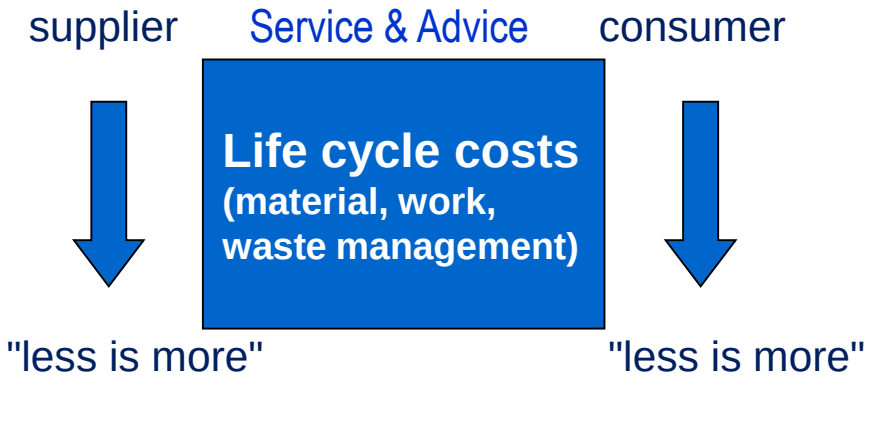
Traditional business models:

Contradictory motivations



Chemical leasing models:

Bundled motivatins



Willingness and culture of cooperation is required!

Chemical Leasing applications - some sectorswise examples

Industry Sector	ChL application process	Unit of payment
Manufacture of electronic equipment	Powder coating	Per m^2 of coated surface
Car manufacture	Hydrocarbon solvents for cleaning	Per m^2 of surface area cleaned
Paint Manufacturing	Wall Painting	Per m^2 of painted surface area
Agriculture	Pest control	Per ha agriculture area of controlled pest/ or based on yield
Waste water and drinking water treatment	Treatment process	Per m^3 of treated/purified water
Beverage and food-processing	Application of glue in labels	Based on area of the label pasted

International Conference on Resource Efficiency and Circular Economy

Thank You...!